

FIG.

Inventor: MURAKAMI et al.
Docket No.: 10873.1852USWO
Title: METHOD AND APPARATUS FOR ESTIMATING THE CHARGE/DISCHARGE
ELECTRICITY AMOUNT OF SECONDARY BATTERIES
Attorney Name: Douglas P. Mueller
Phone No.: 612.455.3804
Sheet 2 of 6

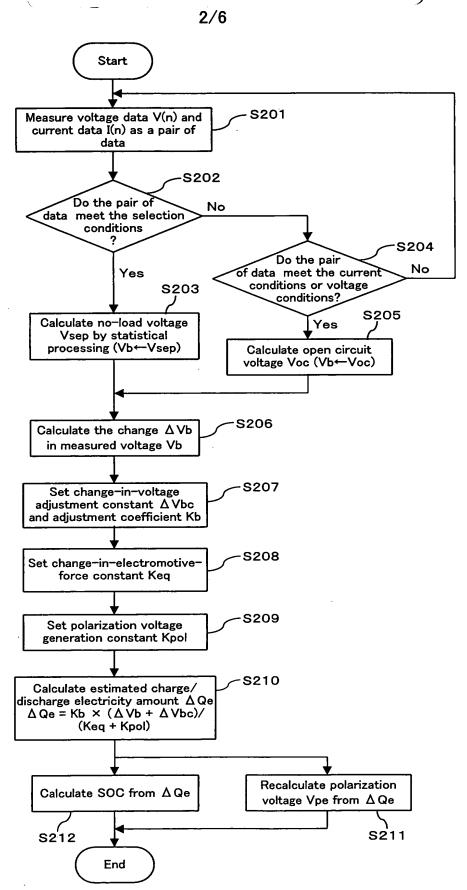
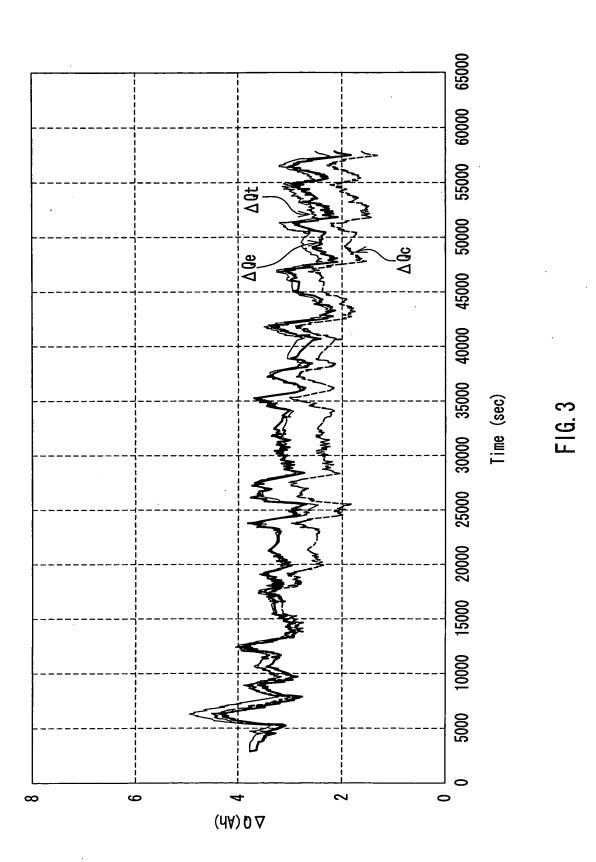


FIG.2

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Phone No.: 612.455.3804 Sheet 4 of 6 4/6 SOC å voltage recalculation Polarization calculation State of charge (SOC) 5 part 1161 ΔQe Compensation coefficient calculation calculation part 114B charge/ discharge electricity Estimated amount ΔQm part ΔVpol ΔVb Change-in-electromotive -force calculation part 108 Change-in-measured-voltage calculation part voltage calculation part Change-inpolarization-Electromotive force calculation part voltage calculation part Polarization 107 Measured voltage selection LUT part 1121 Vsep \ 00 ΔQm Open circuit voltage calculation calculation part Measured charge/ discharge electricity amount calculation part 106 109 voltage No-load part <u>.</u> 102 103 104 Voltage measurement -part Current measurement part Temperature measurement part **T**(2)

101B

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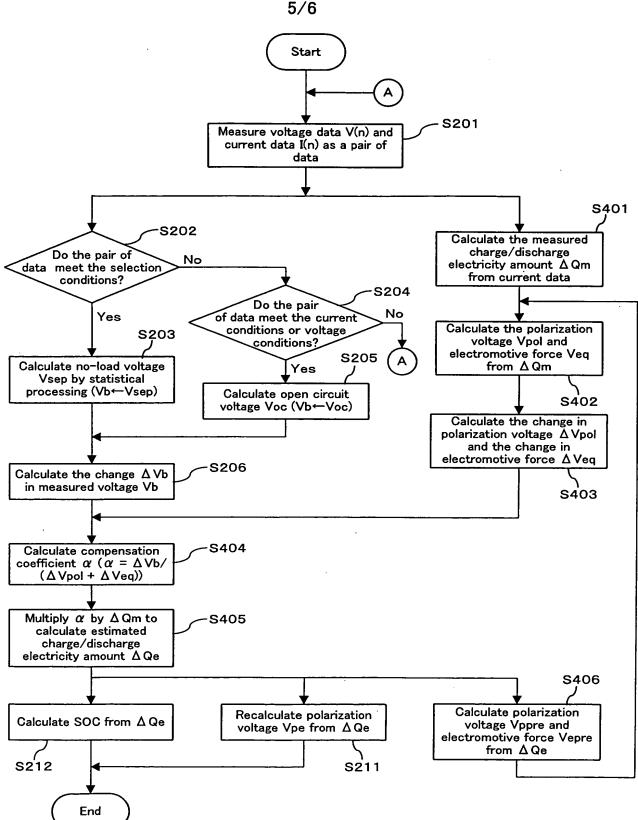


FIG.5

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